

$$2x^2 + 9x - 5$$

$$= 2x^2 + 10x - 1x - 5$$
Rewrite.
$$= (2x^2 + 10x) + (-1x - 5)$$
Group as two binomials.
$$= 2x(x + 5) - 1(x + 5)$$
Factor out the GCFs.
$$= (2x - 1)(x + 5)$$
Distributive Property

The factored form of $2x^2 + 9x - 5$ is (2x - 1)(x + 5).

constants?

54. Reason A parking lot has an area of $6x^2 + 27x - 15$ square meters. Use factoring to find possible dimensions of the parking lot. The parking lot is to be enlarged so that each dimension is 5 meters greater than it was originally. What are the new dimensions of the parking lot? What is the new area of the parking lot?

2(2×+3)

310 TOPIC 7 Polynomials and Factoring

Go Online | PearsonRealize.com

LESSON 7-7

Factoring Special Cases

Quick Review



A perfect-square trinomial results when a binomial is squared.

Factor a perfect-square trinomial:

$$a^{2} + 2ab + b^{2} = (a + b)^{2}$$

 $a^{2} - 2ab + b^{2} = (a - b)^{2}$

Use these patterns when the first and last terms are perfect squares and the middle term is twice the product of the numbers being squared.

Factor a difference of two squares:

$$a^2 - b^2 = (a + b)(a - b)$$

Use this pattern when a binomial can be written as a difference of two squares.

Example

What is the factored form of $9x^2 - 121$?

= (3x - 11)(3x + 11)

Write the first and last term as a perfect square. $9x^2 - 121 = (3x)^2 - 11^2$

pattern.

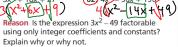
55.
$$x^2 + 16x + c$$
 56. $2x^2 - 28x + c$

Write the factored form of each expression.

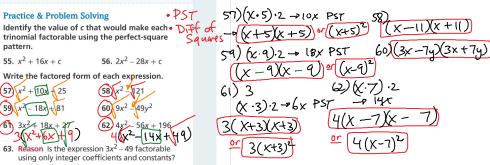








64. Make Sense and Persevere The area of a playground is $36x^2 - 16y^2$ square feet. Use factoring to find possible dimensions of the playground. How are the side lengths related? What value would you need to subtract from the longer side and add to the shorter side for the playground to be a square?



TOPIC 7 REVIEW

TOPIC 7 Topic Review 311